



ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
DECEMBER 3, 2007 – 1:00 P.M.
MULTI-MODAL CONFERENCE ROOM

Present: L. Tibbits J. Friend J. Polasek
B. O'Brien M. Van Port Fleet C. Roberts
T. Fudaly E. Burns C. Bleech

Absent: J. W. Reincke J. D. Culp T. Anderson

Guests: C. Libiran G. Mayes (for J. Reincke)

OLD BUSINESS

1. **Approval of the November 1, 2007, Meeting Minutes – L. Tibbits**

The November 1, 2007, meeting minutes are approved.

NEW BUSINESS

1. **Road Design Manual, Chapter 3 – C. Libiran**

Chapter 3, Alignment and Geometrics, of the *Road Design Manual* provides guidance for the key geometric design elements used in the design of road projects. This chapter is referenced in the FHWA/MDOT Oversight Agreement as a basis for approval of designs by both MDOT and FHWA on NHS projects. The Chapter 3 update team included staff from the Design and Traffic and Safety Divisions, and region representation. FHWA and the regions reviewed the product before incorporating final revisions. Along with minor additions, clarifications and section relocations, documented changes to acceptable practices included:

- Elimination of crown runout between reverse curves and 40 percent transition in the curve (Section 3.03A-4)
- Increased cross slope on 3 or more consecutive lanes (Section 3.04)
- AASHTO Maximum Grades (Appendix 3A-4)
- Vertical curve improvements in non-freeway 3R projects (Section 3.09.02C)
- Design speed vs. posted speed (Section 3.06)

ACTION: EOC approved the revised Chapter 3 of the *Road Design Manual*.

2. **Pavement Selections – B. Krom**

a. **Reconstruct M-85 From Schafer Highway to Oakwood Boulevard: CS 82211 and 82073, JN 80011**

The reconstruction alternatives considered were a hot mix asphalt (HMA) pavement (Alternative 1 – equivalent uniform annual cost [EUAC] \$89,244/directional mile) and a jointed plain concrete pavement (Alternative 2 - EUAC \$105,682/directional mile). A life cycle cost analysis was performed and Alternative 1 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

1.5"	HMA, 5E3, Top Course
2"	HMA, 4E3, Leveling Course
3.25"	HMA, 3E3, Leveling Course
16"	Open Graded Drainage Course
	Geotextile Separator
8"	Sand Subbase
6" dia.	Open Graded Underdrain System
30.75"	Total Section Thickness
Present Value Initial Construction Cost.....	\$1,224,804/directional mile
Present Value Initial User Cost.....	\$269,531/directional mile
Present Value Maintenance Cost	\$254,886/directional mile
Equivalent Uniform Annual Cost	\$89,244/directional mile

b. Reconstruct US-31 From the State Line to US-12: CS 11056, JN 50757 and 87343

The reconstruction alternatives considered were a HMA pavement (Alternative 1 – EUAC \$47,012/directional mile) and a jointed plain concrete pavement (Alternative 2 - EUAC \$53,840/directional mile). A life cycle cost analysis was performed and Alternative 1 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

1.5"	HMA, 5E10, Top Course (mainline and shoulders)
2.5"	HMA, 4E10, Leveling Course (mainline and shoulders)
3.75"	HMA, 3E10, Base Course (mainline and shoulders)
6"	Aggregate Base
18"	Sand Subbase
6" dia.	Underdrain System
31.75"	Total Section Thickness
Present Value Initial Construction Cost.....	\$648,604/directional mile
Present Value Initial User Cost.....	\$80,429/directional mile
Present Value Maintenance Cost	\$111,393/directional mile
Equivalent Uniform Annual Cost	\$47,012/directional mile

(Signed Copy on File at C&T)

Brenda J. O'Brien, Secretary
Engineering Operations Committee

BJO:kar

cc:	K. Steudle	S. Mortel	J. Steele (FHWA)
	J. Shinn	D. Jackson	R. Brenke (ACEC)
	L. Hank	W. Tansil	G. Bukoski (MITA)
	EOC Members	D. Wresinski	D. DeGraaf (MCPA)
	Region Engineers	C. Libiran	D. Hollingsworth (MCA)
	TSC Managers	R. J. Lippert, Jr.	J. Becsey (APAM)
	Assoc. Region Engineers	T. L. Nelson	M. Newman (MAA)
	T. Kratofil	T. Phillips	J. Murner (MRPA)
	M. DeLong	K. Peters	G. Naeyaert (ATSSA)
	B. Shreck	J. Ingle	C&T Staff